Claims

1. A method of loading a self-expanding stent into a delivery sheath, in which the stent in a radially confined delivery configuration is advanced axially into the sheath for delivery to a stenting site in which the sheath is withdrawn to release the stent for radial expansion at the site

characterized by the steps of

i) providing said stent as a covered stent having a stent matrix with surfaces defining luminal and abluminal envelopes spaced apart by a stent wall thickness, a covering material bonded to the matrix lying radially inside the luminal envelope

ii) providing a stent pusher within the lumen of the stent, the stent pusher having radially outwardly extending protrusions distributed along the length of the stent lumen

iii) compressing the stent radially inwardly until the protrusions deform the covering material, yet remain radially inside the luminal envelope, and

iv) advancing the compressed stent into the sheath by imposing an endwise force on the stent pusher so that the covering material transfers the pushing force from the protrusions of the stent pusher to the stent matrix.

2. Method as claimed in claim 1, including the step of arranging the protrusions helically, so that the stent pusher can be withdrawn from the lumen of the stent, inside the sheath, by unscrewing the stent pusher relative to the stent lumen.

3. A self-expanding stent within a percutaneous transluminal delivery catheter that includes a sheath that withdraws proximally to release the stent at a stenting site, and a pusher within the sheath that retains the stent at the site during withdrawal of the sheath

characterised in that

i) the pusher extends along the lumen of the stent and has radially outwardly extending protrusions distributed along the length of the stent lumen

ii) the stent is a covered stent having a matrix with surfaces defining luminal and abluminal envelopes spaced apart by a stent wall thickness, a covering material bonded to the matrix lying radially inside the luminal envelope; and

iii) the protrusions deform the covering material yet remain radially inside the luminal envelope.

4. Stent as claimed in claim 3, wherein the stent matrix is of metal and the covering is of expanded polytetrafluoroethylene.

5. Stent as claimed in claim 3 or 4, wherein the stent matrix is apertured and the covering is bonded to an abluminal stent covering layer through the apertures.

6. Stent as claimed in claim 3, 4 or 5, wherein the stent matrix is formed from a nickel-titanium shape memory alloy.

7. Stent as claimed in an one of claims 3 to 6, wherein said protrusions are the turns of a spiral.

8. Stent as claimed in any one of claims 3 to 7, with a tapered distal tip on said sheath.

9. Stent as claimed in any one of claims 3 to 7, with a tapered distal tip on said pusher, distal of said sheath.